MCNC

P.O. Box 12889
3021 East Cornwallis Road
Research Triangle Park, NC 27709
T (919) 248-1900 F (919) 248-1101
www.mcnc.org

WC Docket No. 10-90

Ms. Marlene Dortch
Secretary
Federal Communications Commission
445 12th St. SW
Washington, DC 20554

March 7, 2014

Re: **CAF Trial Expression of Interest**

Dear Ms. Dortch,

The purpose of this letter is to express interest in the FCC's Rural Broadband Experiments, WC Docket No. 10-90.

CAF Trial Expression of Interest

1. **The nature of the submitting entity**

MCNC is a 501(c)(3) not-for-profit corporation established in 1980 that builds, owns, and operates a leading-edge broadband infrastructure for North Carolina's research, education, non-profit healthcare, and other community anchor institutions (CAIs). This infrastructure, called the North Carolina Research and Education Network (NCREN), provides advanced broadband services to all 115 K-12 public school districts, over 50 K-12 public charter schools, all 58 North Carolina public community colleges, 17 University of North Carolina campuses, 26 North Carolina independent colleges and universities (including Duke and Wake Forest), more than 125 healthcare locations and many other CAIs.

MCNC has a history of operating facilities-based networks dating to the early 1980s. MCNC originally operated a private microwave network delivering high-quality interactive video services and data over this network to support collaborative research efforts between North Carolina's research universities. We also have collaborated closely with commercial service providers teaming with NC State Government and ILECs BellSouth, GTE, and Sprint to deliver advanced ATM services in the 1990s. Today, MCNC works closely with ILECs and CLECs in North Carolina to deliver advanced network services to the CAIs connected to NCREN.

Concurrently, MCNC has worked with equipment manufacturers to implement state of the art technology in support of anchor institutions and research. MCNC was among the earliest to deploy dense wave division multiplexing (DWDM) technology in our network working closely with Nortel, Lucent, and Cisco over several generations of products. This work continues in the present time, as MCNC will soon begin trials of Software Defined Networking solutions from Cisco.

More recently, MCNC was awarded two BTOP grants totaling $104M ($140M total project value) that resulted in more than 2500 miles of fiber network connecting underserved areas of the state. MCNC is operating the network in an open-access manner. Twenty-four strands of the dark fiber included in the BTOP-funded build are used to serve the CAIs connected to NCREN. Additional dark fiber strands in the BTOP-funded build are being marketed to commercial providers to support private sector needs and enable rural residential broadband development. MCNC has closed nine dark fiber IRU transactions with ILECs, CLECs, and wholesale providers.

MCNC's performance in implementing the BTOP-funded builds is regarded as one of the best uses of ARRA funds, and we were recognized by the White House as a *Champion of Change* in 2012 based on this work.

Our intent with the CAF Rural Broadband experiment is to further the work we have been doing to offer scalable high bandwidth broadband capability to anchor institutions and enable the commercial sector to improve residential service in unserved census tracts. The experience we have gained with BTOP will enable us to start quickly and execute efficiently.

2. **Nature of the project and its objective**

At the completion of MCNC's BTOP build, Community Anchor Institutions (CAIs) in two significant areas of the state remain unserved with respect to dedicated and scalable broadband. Through the CAF Rural Broadband Experiment, MCNC proposes to build infrastructure to fill these gaps and serve CAIs in these areas.

Maps of both proposed builds are attached. The specific routes are as follows:

Central North Carolina Build: Leaving Midland in Cabarrus County (at an intersection point from existing MCNC infrastructure), extending into Albemarle (Stanly County), and ending in Troy (Montgomery County). At this intersection point MCNC will enter into an indefeasible right to use agreement to obtain existing fiber from a competitive LEC, Broadplex, to interconnect this new infrastructure back to BTOP-funded facilities in Hamlet, and existing NCREN infrastructure in Reidsville, to fill in this central North Carolina gap. MCNC will also build a fiber optic lateral into Misenheimer to reach a higher education CAI within Stanly County.

Eastern North Carolina Build: Beginning in Wilson from existing MCNC infrastructure, constructing new fiber into Goldsboro (Wayne County), then to Kinston (Lenoir County), on to Trenton, and then finally meeting with the existing MCNC fiber in Jacksonville. This new infrastructure will fill in a large gap existing in the eastern North Carolina area of the state.

MCNC will reach the following CAIs with direct dark fiber with this build:

Central North Carolina Build	
Stanly Community College	5 locations
Stanly County Schools Central Office (serving 21 schools)	1 location
Pfeiffer University	1 location
Montgomery County Schools Central Office (serving 10 schools)	1 location
Montgomery Community College	1 location
North Carolina Zoo in Asheboro	1 location
Randolph County Schools Central Office (serving 31 schools)	1 location
Asheboro City Schools (serving 9 schools)	1 location
North Carolina State Highway Patrol-Asheboro, Albemarle	2 locations

Eastern North Carolina Build	
Wayne County Schools Central Office (serving 33 schools)	1 location
Wayne Community College	1 location
Lenoir Community College	2 locations
Jones County Schools Central Office (serving 6 schools)	1 location
North Carolina State Highway Patrol-Wilson, Goldsboro, Kinston	3 locations
NC Department of Public Safety Eastern Emergency Management Ctr.	1 location

As with the BTOP build, MCNC will survey to find existing fiber in these regions that heretofore has not been identified and make maximum use of these existing assets.

MCNC wants to assist CAIs beyond the education sector. The public safety facilities are essential to efficient State Highway Patrol and Emergency Management operations in North Carolina. These four facilities have experienced very high cost, low speed broadband connections using existing providers. The North Carolina Zoo is a tremendous potential virtual teaching asset, not just a bricks and mortar zoo. This opportunity comes at the perfect time as all North Carolina K-12 schools are mandated by North Carolina Session Law 2013-12 to move to all digital content by school year 2017-2018.

3. **Telecommunications Partner**

MCNC has developed strong relationships with private, for-profit ILECs, MSOs, WISPs, CLECs, and wholesalers over the last 5 years. MCNC purchases dark fiber, lit services, Internet access, co-location facilities, and other services from a host of providers. In addition, over the last 2 years, MCNC has sold dark fiber strands to several providers via indefeasible right to use (IRU)

contracts.

MCNC will operate the commercial portion of the proposed CAF-funded fiber builds in an open-access manner similar to how it has operated the BTOP infrastructure. Existing service providers have expressed interest in leveraging the CAF-funded builds should they occur. The attached media articles describe the impact MCNC's current work is having on the deployment of high-speed broadband services in rural North Carolina.

Specific to the CAF request, MCNC has spoken with RST Global Communications, a firm that has procured fiber on the entire BTOP-funded backbone. RST has submitted its own CAF interest letter. RST plans to leverage the proposed MCNC CAF builds to deploy limited fiber-to-the-home builds in higher density eligible areas around the build. RST also plans to use new/emerging wireless standards like 802.11ac in select lower density areas to serve consumers and businesses with higher bandwidth services than currently available. To test innovative wireless solutions, MCNC and RST have access to the non-profit Wireless Research Center of North Carolina (WRCNC) to test and verify coverage, propagation, throughput, etc. A letter of support from the WRCNC is included in this package.

RST will detail plans for wired and wireless last mile deployments if MCNC is asked for a formal submission. A placeholder for RST deployment costs that includes FTTP for 2000 homes and businesses and a couple of select wireless trials are included in the proposed budget.

4. Identification of the proposed service area for the experiment

The attached map, "MCNC Proposed CAF Project Routes," illustrates the routes MCNC would build or acquire overlayed on the FCC-eligible census tracts and identifies important anchor institutions and municipalities along the paths. Fiber routes MCNC built for its BTOP projects are identified to show how these new segments would integrate and get access to backhaul service.

These census tracts will be impacted by the project:

GEOID10,37153970100,37153970200,37153971000,37153970300,37153970400,37153970600,37123960500
,37123960300,37123960200,37123960100,37123960402,37107011300,37107010700,37107011100,3710701
0800,37107010100,37107010300,37107010500,37107010600,37107010900,37107011002,37107011001,371
07011400,37081010200,37081011400,37081016900,37081010900,37081012604,37081010800,37081015401
,37081015402,37081016701,37081016702,37081011905,37081012704,37081015500,37081015600,3708101
0300,37081016800,37081012804,37081011300,37081015100,37191001200,37191001800,37191001900,371
91000200,37191000302,37191000101,37191000304,37191001302,37191000401,37191001301,37191000102
,37195000802,37195000700,37195000801,37195000400,37195000900,37167930700,37167930900,3716793
1000,37167930200,37167930300,37167930500,37167930102,37167930101,37167931201,37167931202,371
67930801,37025041601,37151030100,37151030201,37151030202,37151030301,37151030302,37151030400
,37151031400,37151030802,37151030700,37151031305,37103920100,37103920300,3710392
0200,37133001300,37133001800,37133002100,37133001700,37133000103,37133001101,37133001102,371
33002600,37157041400,37157041300,37157041500,37157041602

5. Nature of the broadband service to be deployed

MCNC intends to construct a buried optical plant of at least 144 strands. A portion of those strands will be integrated into MCNC's existing DWDM network. MCNC will provide 1 Gbps and 10 Gbps point-to-point circuits initially, with 100 Gbps circuits available during the life of the project. Fiber strands beyond MCNC's needs will be marketed to anchor institutions, private entities, and commercial carriers at attractive rates similar to those offered on the fiber constructed in our two BTOP projects.

6. Contemplated service offerings

MCNC will offer direct Internet access services, point-to-point circuits at speeds up to 100Gbps, and dark fiber leases to CAIs. Additionally, CAIs using these services will have access to other services from MCNC such as video streaming, two-way interactive video conferencing, web and content filtering, security services, etc.

Commercial service providers will be offered dark fiber services upon which they can build direct Internet access and provide middle-mile backhaul for residential broadband.

7. **State and/or local governmental participation**

MCNC received tremendous support from State, County, and Local Government entities on its BTOP-funded builds. For the requested CAF builds, MCNC has already briefed state and local government leaders and received the following commitments of support:

State Level:

- Office of the Governor and the State Chief Information Officer have given verbal support that they will formalize as the FCC requests additional information from MCNC.
- North Carolina State Department of Transportation (NCDOT) has given verbal support to work with MCNC as it did on the BTOP builds. NCDOT controls over 99% of the highway rights of way in the State. MCNC and NCDOT developed a seamless permitting process during the BTOP-funded builds.
- North Carolina State Highway Patrol expressed verbal support.
- No tribal lands are traversed with the proposed builds.

Central North Carolina Build:

- Stanly County Commissioners endorsed the MCNC request for CAF funds with a resolution at their March 3rd meeting and pledged cooperation should funding be obtained. The resolution from the Stanly County Commissioners and a letter from Stanly County Chamber of Commerce are part of this package. It is expected that MCNC will receive similar support from all counties in the Central and Eastern North Carolina builds if MCNC's project advances to submitting a formal proposal.

- Pfeiffer University President has expressed support of the request and pledged cooperation should funding be obtained.

Eastern North Carolina Build:

- County Manager of Lenoir County has offered support for the MCNC request for CAF funds and pledged cooperation should funding be obtained.

Funding and In-Kind Support

- Stanly County, Pfeiffer University, the MCNC Endowment, and the Golden LEAF foundation have all pledged to explore investments in the projects if CAF funding is made available for the projects. This funding could be used as matching funds for project capital costs, to build additional fiber, or to provide sustaining funding for the operation of the network.

8. **CAF Funding request**

The BTOP builds were one-time capital infusions of funding. MCNC developed a 25-year sustainability plan based on:

- User fees from CAI connectors to NCREN.
- Proceeds from the sale of BTOP built dark fiber to private sector service providers and other entities. These proceeds go into a pool of funds dedicated to the refresh of NCREN assets.
- MCNC's Endowment which is also dedicated to the refresh of NCREN.

MCNC is ahead of the fiscal goals set in this sustainability plan. MCNC's fiscal sustainability plan can be shared with the FCC upon request.

While MCNC believes a one-time capital investment is the optimum type of funding for the CAF project, MCNC is willing to work with the FCC to explore and experiment with different models of capital and sustaining funding. This will serve to educate the FCC, MCNC, and the provider community at large.

9. A high-level estimate of the amount of funding requested

As with our BTOP projects, MCNC will attempt to acquire existing fiber rather than build wherever possible. We have identified two routes that will fill gaps in the fiber availability in North Carolina that we describe as the Central North Carolina Route and the Eastern North Carolina Route.

The Central North Carolina Route will require approximately 90 miles of new fiber construction combined with an IRU from Broadplex of 88 miles. This route will tie into existing MCNC fiber built as part of the BTOP projects in Midland, Hamlet, and Reidsville.

The Eastern North Carolina Route will be 127 miles of new construction linking Jacksonville to Wilson and passing through unserved communities including Kinston.

The estimated costs for construction, IRU acquisition, and necessary equipment are described in the table below.

Path Description	Total Estimated Cost
Central North Carolina Construction Cost (Estimated 90 Miles)	**$6,177,600**
Central North Carolina IRU Acquisition (Estimated 88 miles)	**$1,584,000**
Central North Carolina Equipment Cost (Directly serving or benefitting 85 CAIs)	**$490,000**
Eastern North Carolina Construction Cost (Estimated 127 Miles)	**$8,717,280**
Eastern North Carolina Equipment Cost (Directly serving or benefitting 48 CAIs)	**$315,000**
RST last mile FTTP deployment and Wireless experiments	**$3,375,000**
Total Expected Middle Mile Project Cost	**$20,658,880**

10. Time required to complete the project

The timeline below anticipates that the FCC will follow similar rule requirements related to permitting and environmental assessments as the NTIA followed in administering BTOP grants. If so, the following conservative timeline could reasonably be expected following project award.

Project Award-Project Start
Permitting, environmental assessment
Complete 6 months after project award

Construction Eastern North Carolina Build
Starts upon permitting completion - 9 months

Construction Central North Carolina Build
Runs concurrently with Eastern North Carolina Build - 6 months

Equipment Deployment

Complete within one month after construction completion

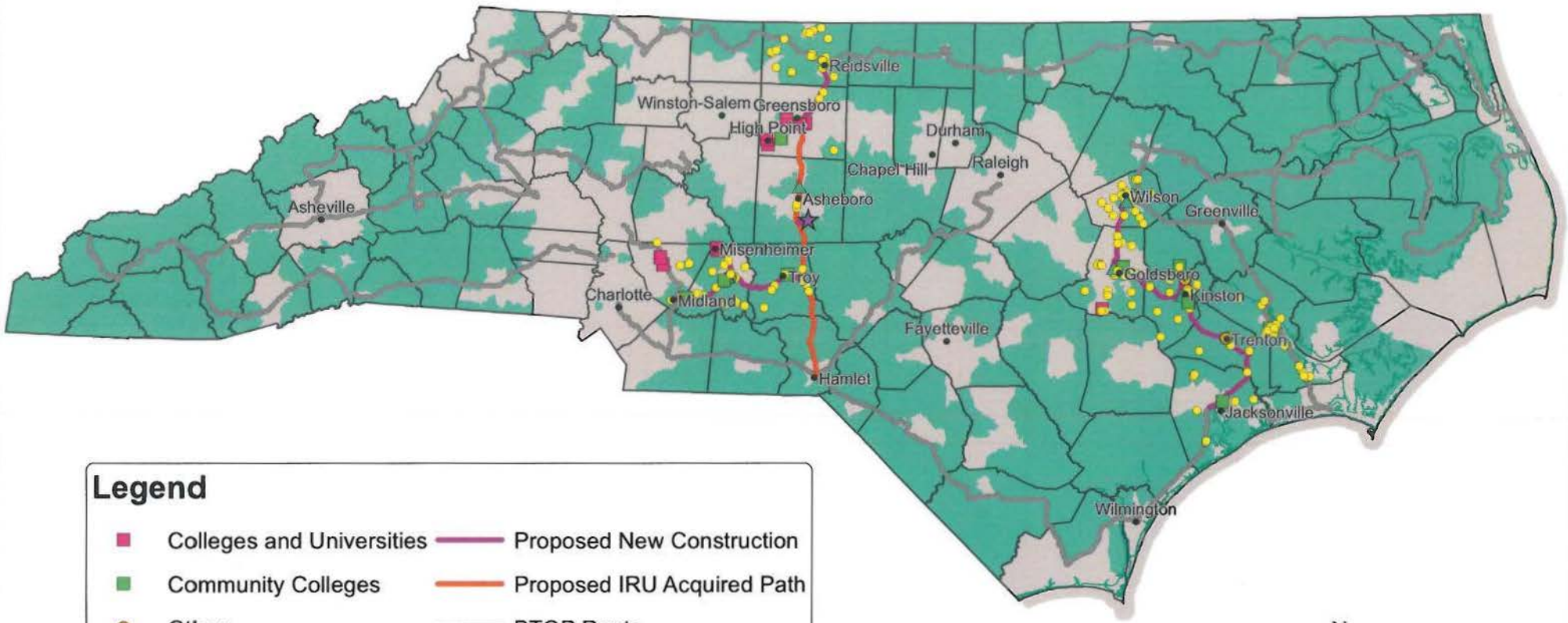
Total Project Timeline: 15-18 months.

MCNC appreciates the opportunity to provide this expression of interest.

Sincerely,

Joseph A. Freddoso
President and CEO, MCNC

MCNC Proposed CAF Project Routes



Legend

- Colleges and Universities
- Community Colleges
- Other
- Public Safety
- Public Schools
- Zoo
- Select Municipalities
- Proposed New Construction
- Proposed IRU Acquired Path
- BTOP Route
- County Boundaries
- Shoreline
- Eligible Tracts per FCC

Map Created for MCNC: 3/6/2014
Data Current as of February 6, 2014

RESOLUTION

Connect America Funding – MCNC Supporting Resolution

WHEREAS, the Federal Communications Commission is making Connect America Funds available for experimentation and proposals to build broadband infrastructure in unserved and underserved areas; and

WHEREAS, there is a particular focus on serving anchor institutions within communities such as schools, colleges/universities, libraries, public safety and healthcare facilities, as well as non-profit and local government institutions; and

WHEREAS, access to high capacity, high-speed, state-of-the-art broadband networks is essential for Stanly County to compete in the regional, state, national and global economy and to provide citizens access to advanced applications in education, medicine, public safety and emergency management; and

WHEREAS, the deployment of broadband is a new public utility vital to the future economic development, educational outreach and community growth in Stanly County and is necessary to help replace lost textile and other manufacturing jobs; and

WHEREAS, many key anchor institutions and strategic economic development related facilities such as the Stanly County Airport remain significantly underserved with respect to broadband infrastructure; and

WHEREAS, Stanly County recently commissioned a formal study to explore a lateral fiber build to connect Stanly County to MCNC's fiber backbone in an adjacent county, and this investment was made in an effort to explore opportunities for public-private collaboration, to support education and strengthen economic development opportunities; and

WHEREAS, the nonprofit organization MCNC, which owns and operates the North Carolina Research Education Network, is seeking experimental funding from the Federal Communications Commission; and

WHEREAS, the MCNC funding proposal may include partial funding for broadband infrastructure deployment in Stanly County;

NOW, THEREFORE, the Stanly County Board of Commissioners express support for MCNC's efforts in North Carolina and Stanly County and pledge assistance with permitting and the coordination of facility co-location when and where available.

Tony M. Dennis, Chairman
Stanly County Board of Commissioners

ATTEST:

Tyler Brummitt, Clerk to the Board

PO Box 909 - Albemarle, NC 28002-0909
stanlychamber.org

Mr. Joe Freddoso, President & CEO
MCNC
3021 Cornwallis Rd, Box 12889
RTP, NC 27709

March 3, 2014

Dear Mr. Freddoso:

Please accept this letter of support from the Stanly County Chamber of Commerce for the MCNC Connect America Fund broadband initiative in underserved areas. A build through Stanly County would provide critical infrastructure for future economic prosperity. The needs of education, healthcare, and public safety are dependent upon access to fiber; the MCNC project can assist in filling these needs.

The Stanly County Chamber of Commerce Executive Board unanimously supports the MCNC application for experimental funding from the Federal Communications Commission. MCNC's efforts are to be applauded, and Stanly County Chamber of Commerce supports the Stanly County Commissioners as they seek to grow our county and our region.

The Stanly County Chamber of Commerce appreciates this opportunity and will continue to work collaboratively with Stanly County Commissioners and Stanly County Manager, Andy Lucas, to support the MCNC initiative. Thank you for continuing to increase open access broadband infrastructure to leverage opportunities across North Carolina.

Best regards,

Dr. Russ Sharples
Chair, Board of Directors

Kathy L. Almond
President & CEO

Wireless Research Center
OF NORTH CAROLINA

05 March 2014

Mr. Joe Freddoso, President & CEO
MCNC
3021 Cornwallis Road, Box 12889
Research Triangle Park, NC 27709

Mr. Freddoso:

The Wireless Research Center of North Carolina (WRCNC) is an independent 501(c)(3), nonprofit research organization that promotes the advancement of wireless technologies. With its economic development mission, the center offers a safe and trusted environment for invention, development, and deployment of wireless products and systems.

Since its inception in 2010, the WRCNC has gathered a collaborative set of engineering talent and testing capabilities. We know of no other facility and team like the WRCNC in the Southeast region of the US. We offer a broad range of engineering and business services to support the industrialization and commercialization of wireless products from concepts throughout all stages of production. The Center is an ISO 17025 accredited facility and a certified CTIA Test Lab for over-the-air (OTA) testing of cellular devices. The center engages in a diverse set of corporate, academic, and regulatory research projects, and offers guidance for regulatory requirements (FCC, CE, etc.) and industry standards (CTIA, IEC, and IEEE).

In addition to engineering and testing services, we facilitate:

- Intellectual Property Reviews, Technical Product Reviews, and Design Simulations
- Production Qualification and System/Product Readiness.
- Business development through incubation, commercialization, and strategic partnering.

The Wireless Research Center of North Carolina (WRCNC) supports MCNC and its industry collaborators' application for inventive use of Connect America Funding to deploy wired and wireless services to Community Anchor Institutions, Consumers and Business in unserved census tracts.

The WRCNC is poised to provide access to equipment, engineering support, and coverage testing for the proposed wireless deployments to support this application. The WRCNC charges hourly and daily rates for equipment use and for engineering and technician support. The full complement of the center's services would be available to MCNC and its collaborators.

Sincerely,

Dr. Gerard James Hayes, Ph.D.
President & CEO, WRCNC

3331 Heritage Trade Drive, Suite 101 Wake Forest, NC 27587 Office: 1.919.435.1051

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Inteliport owner pitches faster, lower-cost Net service

■ Lane: Customer signups begin Monday

BY WILLIAM F. WEST
Staff Writer

Thanks to a $144 million broadband expansion project in North Carolina, a Hertford-based Internet provider believes he now can offer faster Internet service to local customers at a price that's better than the region's largest private Internet providers.

Stephen Lane, a co-founder of Inteliport Fiber, told members of the Elizabeth City Area Committee of 100 on Wednesday that starting Monday, customers in Elizabeth City, Hertford and Edenton can sign up for Internet service he's offering for $59.95 a month for residential connections and $79.95 a month for business connections.

Lane said he will provide residential customers with Internet service that will transmit at least 60 megabits of data per second and business customers with service that will transmit at least 80 mega-bits per second. A mega-bit generally is the equivalent of 100 pages of note pad text.

Lane said that there is an equipment cost of $150, plus tax, but customers won't have to sign a contract with Inteliport Fiber. And although there is a $300 installation fee, the amount will be waived the day the customer receives the service, he said.

"We have no gimmicks," Lane said while making a half-hour long presentation about Inteliport Fiber's services to approximately 30 people at Montero's Restaurant.

Lane is taking advantage of a high-speed fiber optic system installed by the Microelectronics Center of North Carolina, as part of a $144 million project paid for with federal stimulus funds, Golden LEAF funding and private donations. MCNC, which is based in the Research Triangle Park, completed the project last year to bring broadband Internet service to rural and under-served areas. Lane's company bought fiber cable within MCNC's lines.

MCNC's project focused on building the fiber optic line capable of bringing high-speed Internet service to public schools, universities, community colleges, health care facilities, public health facilities, libraries and research institutions. But now, small companies like Inteliport Fiber have been moving to use the MCNC line to sign up private customers.

Lane says he's hoping to reach customers as far west as Williamston, Tarboro and Rocky Mount. Customers interested in signing up can visit fiber@inteliport.com and pay a $10 registration fee.

Responding to a question about how he believes his two largest private competitors in the region, CenturyLink and Time Warner, are going to respond to his pitch for their customers, Lane said he wasn't sure. Up until now, Inteliport Fiber has been "staying off the radar for quite a long time," he said.

"We don't have deep pockets like they do," Lane said of CenturyLink and Time Warner.

Lane said until Inteliport Fiber conducted a marketing survey, he didn't realize how weary customers are of all the things inserted in their contracts with large Internet providers.

"They're tired of bundling," he said, a reference to providers offering combined services designed to save customers money.

Scott Pryzwansky, a spokesman for Time Warner, said in a statement Thursday that his company offers residential and business customers a wide choice of Internet speeds and features. Time Warner currently offers service capable of transmitting two megabits per-second for $14.99 a month, he said. Time Warner also can offer service providing up to 50 megabits per-second as well as "commercial-grade service" for business customers, he said.

Pryzwansky said the majority of his company's customers choose to bundle Time Warner services to take advantage of discounts, but all of Time Warner's services are available individually.

"Most of our residential customers are not in a contract," he said.

CenturyLink also doesn't require a "term commitment" of customers as part of its three-year "price lock

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bundle offer," spokeswoman Dacia LaBounty said.

CenturyLink provides broadband service of up to 100 megabits per second as well as television, voice and wireless services to residential customers, LaBounty said. The company offers broadband service of 100 gigabits per second and cloud services to business customers.

CenturyLink "welcomes competition as we believe it is a good thing for consumers and businesses alike," she said.

Lane told Committee of 100 members he believes CenturyLink and Time Warner are mainly interested in adding customers in metropolitan areas, but he wouldn't rule out they'll seek to reproduce the level of service he'll be offering in rural areas as well.

"It's only going to be good for you if they do," he told Committee of 100 members.

Contact Bill West at bwest@dailyadvance.com

LANE

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CABLE LEVELS FIELD FOR SMALL BIZ

By Cindy Beamon

The Daily Advance
Friday, January 3, 2014

Cable levels field for small biz

Many new customers are already tapping into a newly installed highpowered Internet cable in the Albemarle.

Microelectronics Center of North Carolina (MCNC) finished work four months ago on a fiber optic cable to offer better computer access to schools, colleges and nonprofit hospitals.

Local schools have eight times the bandwidth they had five years ago, but are not paying any more for it, thanks to the federally funded project, said Joe Freddoso, MCNC president and CEO.

The school districts in Dare, Elizabeth City-Pasquotank, Edenton-Chowan and Currituck, along with Elizabeth City State University and College of The Albemarle are already connected to the MCNC cable line. Camden and Perquimans school districts are expected to upgrade their connections as soon as they need to.

The cable was built with enough capacity for businesses to connect, too. Freddoso said about a fourth of the fiber available for private purchase has already been bought.

"I am pleasantly surprised at the demand we have gotten in the northeast," said Freddoso.
The $144 million MCNC project was designed to expand computer capabilities to schools across the region and the state. About 1,200 miles of cable were added to the existing North Carolina Research and Education Network during phase II of the project that included the Albemarle area.

Only MCNC's target customers — schools, hospitals, colleges and universities — were eligible to tap directly into the MCNC cable. Other customers most likely will go through a middleman that pays MCNC for access to its broadband cable. The companies buying fiber are responsible for providing the connections to their residential and business customers.

Three wholesalers have now purchased fiber that makes bandwidth available to service providers in northeastern North Carolina that was previously unavailable, said Freddoso.

One Chowan County businessman is now buying bandwidth from one of those wholesalers. Mark Montgomery with Net-Change in Edenton said buying bandwidth from Shelby-based RST Global Communications will mean "huge savings" for his company.

Net-Change, which offers wireless, high-speed Internet service to about 400 rural customers, is now getting 10 times the bandwidth at a third the cost his company previously paid, said Montgomery.

Another local entrepreneur, Stephen Lane with InteliPort in Perquimans County, actually bought fiber rather than buying it from a wholesaler.

He plans to expand his company's services in the Albemarle area. Lane said small businesses were previously edged out by the region's powerful Internet providers, but the new cable will offer new opportunities.

"(The MCNC cable) completely changed the playing field. It leveled it," said Lane.

The broadband cable still has plenty of capacity for new customers, said Freddoso. On test days across local school districts, with a big burst of demand, the system operates at about 40 to 50 percent its capacity, he estimated.

As the system grows, adding more capacity should not be difficult, Freddoso said. The cable can be easily upgraded with routers and switches to expand.

"We could potentially take on a lot more customers than we have today," he said. Freddoso said he expects that demand will build quickly in coming years.

Demand for more bandwidth in schools grows by about 50 percent each year, Freddoso noted. With North Carolina's online testing and new emphasis on relying less on textbooks and more on online service, the demand will only increase more, he predicted.

0 Comments | Leave a Comment

July 29, 2013

NC firm nears launch of first statewide high-speed commercial Internet access network

RST network map

By RICK SMITH, WRALTechWire Editor

Tags: Broadband, Internet, Startups, Telecommunications and Wireless

Research Triangle Park, N.C. — A high-speed Internet network built on a skeleton of buried fiber-optic cable that will be open to commercial traffic from Manteo to Murphy is in the process of being launched across North Carolina.

Once complete, it will be the first statewide network built with fiber. Other Internet Service Providers have offered connectivity over the years, but in restricted - generally urban or affulent - areas.

The builder is privately held RST Global Communications, which is based in Shelby.

"We deliver a 100 percent underground fiber optic network with speeds more than 100 times faster than the average service offered by competing companies," the company says.

RST's network map (included in this post) shows hundreds of miles of fiber, some of which is leased from MCNC, which recently completed expansion of the North Carolina Research and Education Network. However, NCREN is not open for commercial use. NCREN does, however, enable private sector firms to lease so-called "dark fiber," or unused strands within the network.

RST also says it utilized mergers and acquisitions in putting together the network and has invested "tens of millions of dollars" of private sector capital for the project.

WRALTechWire talked with RST CEO Dan Limerick about the project.

What were the key reasons behind your reason to expand across N.C. (and parts of S.C.)?

As native North Carolinians, we are passionate that the expansion will meet the needs of all North Carolina residents regardless of location and income. We believe fiber infrastructure is the answer to future prosperity and levels the playing field for broadband connectivity for all in the state.

Why did you choose to ride on MCNC network?

We're not riding on MCNC's network; we're just using dark fibers from them to run our network. RST has a very specific build model and MCNC's all-underground network meets our requirements. Also, the completed network covers North Carolina entirely from the coast to the mountains.

Based on your network map, much of your expansion seems to be fiber you are "lighting" over MCNC's network, correct? If so, how many miles?

Our aggressive growth was made possible through additional RST network builds and recent mergers and acquisitions including the areas where we have the IRU with MCNC.

Are you working with other networks such as Duke Net? If so, please explain.

We are building our network and maintaining the quality standards we have set. It is important to us that all our middle miles and backbone miles are completely underground. Currently, no other networks in our service plan model are entirely underground.

Based on your map, it appears you have the potential to be the only provider of Internet access that reaches across all parts of the state. Is that correct?

Yes, that is correct.

Will the network be a hybrid of fiber, wireless and other means of access?

Currently, the network is all fiber, but there are future plans to include wireless at end points directly to the customer. We will offer wireless when the economics makes sense.

Do you plan home and business end-user service across the network or will you be seeking partners in communities?

In most cases, we are seeking partners in communities. RST would like to take our service into rural communities and hand off our services to local providers when possible.

What is the rollout schedule for nodes on the network to service consumers and businesses?

We are in the rollout process today. We anticipate points all over the state being hooked up before the end of the year.

How much is your company investing in this rollout?

Tens of millions of dollars have been spent from private sources.

How is the company financed?

The company is privately financed by the founders.

Can you disclose financial terms and length of agreement with MCNC?

We do not disclose financial terms of any of the contracts or agreements that we are engaged in.